No. 255. Vol. VII.

PHILADELPHIA MEDICAL TIMES.

A BI-WEEKLY JOURNAL OF
MEDICAL AND SURGICAL SCIENCE.

EDITED BY HORATIO C. WOOD, M.D.

SEPTEMBER 1, 1877.

FEB 20 1934

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TERMS.—Yearly Subscription, $4.00, in advance. Single Number, 20 Cents.

J. B. LIPPINCOTT & CO., Publishers,

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LONDON: 16 SOUTHAMPTON ST., COVENT GARDEN.

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PHILADELPHIA, SEPTEMBER 1, 1877.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON A CASE OF POTT'S DISEASE OF THE UPPER CERVICAL VERTEBRÆ.

BY S. W. GROSS, M.D.,

Lecturer on Clinical Surgery at the Jefferson Medical College.

Reported by W. A. JOHNSTON, M.D.

GENTLEMEN,—You will notice in this girl, who is 15 years of age, deformity of the nape of the neck, and a peculiarity in the position of the head, which is slightly flexed, advanced forwards, and inclined somewhat to the right side. Her mother states that she detected the swelling four months ago; but I take it for granted that the disease upon which it depends had existed for some months previously. In the morning, when she rises from her bed, she is able to hold the head more nearly in an upright position, and has more control over its movements, than later in the day. At this time also the muscles in front of the neck are relaxed. At about noon, she complains of pain, which radiates down the shoulders and arms, and the head is fixed in the constrained and rigid position in which you now see it. Pressure upon the top of the head, rotation, and attempts to extend the head greatly aggravate the pains; but they are much relieved when she goes to bed, although they recur two or three times during the course of the night, awakening her from her sleep. Two months ago, she also suffered from pains which extended as high as the vertex on both sides of the occipital region.

The prominence on the posterior surface of the neck, which is the seat of an unnatural amount of heat, and is tender on pressure, extends from the occiput to the spinous process of the fifth vertebra. There is very slight projection of the separate spines, so that the deformity presents less of an angular appearance than is met with in tubercular disease of the column lower down.

Two weeks ago, this girl's father died of pulmonary phthisis: so that her trouble is a legacy transmitted by her parent. It is a beautiful illustration of Pott's disease, or tubercular disease of the spine, occurring, however, higher in the column than is generally the case, the dorsal region being the one most frequently affected. It would be interesting to determine the existing cause of the affection; but this I have been unable to do, and I can elicit no history of injury. Suppression of the cutaneous perspiration or disorder of the digestive apparatus would be sufficient to produce it, since in this disease there is always a latent spark lodged somewhere in the system, and ready at any moment to be aroused into activity by the slightest cause. I must confess that I belong to the school of pathologists who maintain that no one can have such a disease as this, or any other of those which are termed tubercular or strumous, without there being a predisposition to it.

The first four cervical vertebræ are here involved in strumous inflammation. Such an affection may be simulated by rheumatic or common inflammation of the vertebral ligaments; but in such cases, while pain would result from pressure upon the head, reflected painful sensations would not be experienced in the occipital region, the shoulders, and the arms. The value of reflected, or so-called sympathetic, pains, in the diagnosis of disease, is not sufficiently appreciated by the mass of the profession, and to those of you who feel interested in pursuing this topic I can earnestly recommend the highly instructive and interesting "Lectures on Rest and Pain," delivered by Mr. John Hilton, an eminent surgeon of London. In cases of tuberculosis of the spine, peripheral pain will almost invariably point out the seat of the lesion weeks before the deformity has established the diagnosis. Hence, when a child is brought to you suffering pain somewhere upon the surface, it should be stripped, and the course of the painful nerve be traced back to its point of emergence from the intervertebral foramen.

In the case before us, one of the earliest symptoms, and one which clearly indicated spinal trouble, was bilateral pain over the occiput, which reached as high as the vertex, and followed the distribution of the great occipital nerves, which are branches of the second cervicals and emerge from the spinal canal between the atlas and axis vertebræ. The bodies of these bones

being invaded by inflammation, the nerves in the intervertebral foramina become irritated, and express their irritation by pain which is referred to their peripheral distribution. Subsequently, pain was experienced in the shoulders and arms; and this is readily accounted for when we consider that the lower trunks of the superficial cervical plexus, which are distributed to the tissues over the scapula and clavicle, are involved in the morbid action. You may ask, What has the superficial cervical plexus to do with the pain in the arms? Between the fourth cervical nerve and the fifth cervical nerve, which forms a part of the brachial plexus, there is a communicating branch; and it is along this that the sensation of pain is reflected down the arms.

The pain is relieved at night, or whenever the patient assumes the recumbent posture. During the day, while the girl is moving about and sitting up, the bodies of the carious vertebræ are pressed against one another, as is shown by the flexed and advanced position of the head. The pressure is produced by the weight of the head, and increased by the contraction of the muscles attached to it. The sterno-mastoids are only slightly contracted; but there are a number of others which flex the head and are supplied by branches of the cervical plexus. Two in particular are involved: they are the rectus capitis anticus major, its upper and middle portions, and the longus colli. They arise from the transverse processes and bodies of the cervical vertebræ, and are inserted, one in front of the foramen magnum of the occipital bone, and the other into the tubercle on the anterior arch of the atlas. The weight of the head, pressing on the bodies of the vertebræ, irritates the nerves; the nerves of sensation react on the nerves of motion, and the muscles are stimulated to contraction, thereby causing still greater pressure, and keeping up the pains. A similar effect is produced in coxalgia, where the adductor and pectineus muscles are firmly contracted. When our patient goes to bed, the weight of the head is removed, the irritation of the nerves subsides, and the muscles relax. On rising in the morning, no muscular resistance is offered to the nodding motion of the head, and it can be brought into a nearly vertical position. After two or three hours, however, the weight again stimulates the muscles to contraction, and the flexion and pain recur.

The pains felt at night are due to reflex muscular action. During the day, while the brain is on the alert, the muscles which steady the vertebral column are under the control of the will, and are kept constantly in a contracted state to prevent motion; but during sleep the irritation of the exposed filaments of nerves in the cancelli of the bones is transmitted only to the medulla oblongata, the muscles are involuntarily thrown into contraction, and pain is produced by the inflamed surfaces of bone being brought violently together.

The prominence of the back of the neck is due not only to the absence of the bodies of the vertebræ and the flexed position of the head, but also in part to the projection of the spinous process of the axis vertebra. When the head is flexed the atlas vertebra slides forward, making the axis prominent. The greater part of the swelling is, however, due to the deposition of inflammatory new material between and around the posterior segments of the vertebræ. It is placed there for the purpose of forming a splint to keep the parts at rest. The contraction of the muscles answers the same purpose. Nature is doing her best to cure this girl, but will not entirely succeed, and in her present condition she is in danger. Owing to the softening of the atlas vertebra, the transverse ligament may become torn away by an incautious movement; the odontoid process would then be forced backward into the medulla, and produce sudden death.

There was a time when this disease could have been met so as to have prevented deformity. It should have been attended to when the reflected pains gave warning of the impending mischief, or before there was much destruction of the bones and the intervertebral disks. Then, with proper care, a large amount of the now inevitable distortion could have been avoided. All that we can do in the way of treatment is to check the progress of the disease and prevent further deformity. The patient's hands are cold and clammy, showing that the circulation in the outskirts of the system is imperfect, and her appetite is poor. Hence I shall order her two grains of quinine, fifteen drops of the tincture of the chloride of iron, and five drops of the tincture of nux vomica, to be taken every

eight hours, along with a nourishing diet, of which an abundance of fresh milk and bread shall form a prominent feature. With a view to equalizing the circulation, her mother will be instructed to sponge her off with tepid water every morning, and to follow this by friction with a salt towel, which is made by dipping a towel in a strong solution of common salt and allowing it to dry in the sun.

You need scarcely be told that the further progress of the disease can only be arrested by keeping the parts perfectly at rest and free from pressure. If you have carefully weighed the symptoms, you will have observed that you have only to follow out what nature prompts you to do. When the patient is recumbent, the vertebræ are relieved of the weight of the head, and a night's rest is sufficient to relax the contracted muscles and relieve the pain which is a source of so much suffering. Hence it must be evident to you that rest in the recumbent posture is imperatively demanded in this case. To make it effectual, the patient should lie on a hair mattress, the head and neck being supported by a small pillow of sand or small grain, either of which will mould itself to the inequalities of the surface; while the movements of the head are still further restrained by short bags of sand placed on each side and reaching from the top of the head to the shoulders. In this position she will be bathed and fed, and pass her excretions, and not be allowed to rise for any purpose whatever. To be of service, recumbency should be strictly enforced, and be prolonged for months if it be necessary, or until such a time as the vertebræ shall have become consolidated by bony material, which will be indicated by freedom from pain on practising the manœuvres which now elicit it.

A common idea, but, according to my experience, a most erroneous one, is that children bear recumbency badly; that they waste, lose their appetites, and not infrequently die, in consequence of their close confinement. Some cases of joint-disease go on from bad to worse under any course of treatment; but I speak advisedly when I say that recumbency causes children, in the majority of instances, to grow fat and strong. It is the pain which induces emaciation and even death; and there is no apparatus with which I am acquainted that entirely relieves pain if the patient be permitted to walk about during the acute stage of the affection. Should, however, it be deemed advisable to give the patient the benefit of fresh air, it may be carried out in a cuirass, which includes the head, made of wire and well padded. So soon as pain is not elicited by pressing upon or rotating the head, the child may be allowed to get on its feet, provided the spine, weakened by disease, be relieved of the weight of the head. For the richer class of patients, the best support is that of Mr. Darrach, of Orange, New Jersey, in which the weight of the suspended head is transferred to the trunk and pelvis by means of a steel rod, attached above to a padded plate which accurately fits the occipital convexity, and below to a plate fixed on a corset made of rawhide. As the corset is moulded on a plaster cast of the body, it accurately fits all the inequalities of the surface; and as it is perforated by numerous round openings it is extremely light, while freedom of the respiratory movements is provided for by fastening the corset in front with elastic bands. To the occipital plate is attached a band which runs around the sides and front of the head, and from which another band passes under the chin. In the poorer classes, the gypsum bandage of Dr. Sayre, in the folds of which a support for the head is embraced, answers a most admirable purpose.

ORIGINAL COMMUNICATIONS.

A CASE OF SPINAL IRRITATION IN A CHILD.

BY V. P. GIBNEY, M.D.,

Assistant Physician to the Hospital for the Ruptured and Crippled, New York.

AT the last meeting of the American Neurological Association I had the honor of reading a paper on the above subject, directing attention from a tabulated report of forty cases to its bearing on joint-disease, both real and simulated. Of that number a few, the more strikingly illustrative of the points it was then my desire to elucidate, were briefly detailed, while the one which forms the text for my remarks at present was simply included in the table, inasmuch as it was unrelated to arthropathies.

And what is spinal irritation? The use of the term I dislike exceedingly, but I

have not acquired sufficient boldness to eliminate it from my nosology. So far as my experience goes, I much prefer to designate the disease by "Localized Subacute Spinal Meningitis:" still, pathology furnishes me no facts, and to physiology I must have recourse. The question still stands, and when one attempts to speak on this subject some devotee of science immediately rises for information and demands a definition. The symptoms can be described, and even then several cases must be reported to make the account intelligible. To my mind the following, which I have framed, seems to meet the requirements of a logical and, at the same time, comprehensive definition:

A disease of the nervous system manifested by disturbance in the function of such nerves as communicate with the seat of lesion, which lesion is located within the spinal canal.

The term "nerves" is used advisedly, and may mean a cranial nerve, a spinal nerve, or a sympathetic nerve. The theory as to pathology, it will be observed, is not given a place in the above definition, the comprehensiveness of which is thereby preserved.

With these preliminary observations, I shall now give the case in question.

Mary L., æt. 11 years, was admitted to the Hospital for the Ruptured and Crippled on the 15th of May, 1875, the deformity for which relief was sought being a right skoliosis dependent on infantile spinal paralysis. The left lower extremity remained almost devoid of power; and this fact, taken in connection with her spinal deformity, made her gait about as awkward as one could well imagine. The family history, without specializing, is decidedly strumous,—the truth of which is not questioned when you see the father, the mother, or any of the remaining children. This child is of fair complexion, blue eyes, and light hair; has always been regarded as very delicate. The usual plan of treatment was adopted, and the results thus far have been gratifying.

For several months after admission an impetigo capitis gave considerable annoyance, but finally yielded to treatment. Nothing of further importance occurred until March 15, 1876, when there was observed a slight elevation of temperature (100¼°), and a general indisposition, attended with a swelling of the right parotid. On the day following there was nausea, and the diagnosis of parotitis became well established. There was no abatement of the indisposition next day, the stomach was very irritable, and the case at this early stage was commanding a deal of interest. The temperature, however, had not reached 100°, and on the 10th, the day following, the patient was convalescent.

17th.—Slight relapse, vomiting when food is taken into the stomach.

24th.—Parotid swelling on the decline, and since the 18th the child has been sitting up most of the day, recovering with seeming rapidity under the use of tonics and stimulants.

At 3 P.M., a severe paroxysm of pain in the epigastrium caused great prostration. Mustard sinapisms were applied, and relief was afforded within a half-hour. I have omitted to mention the constipation which has been a prominent feature in the case since the invasion of the parotitis: mild cathartics act well, however.

25th.—Two or three paroxysms, less severe than the one of yesterday, and not so protracted.

26th.—At 5 A.M., another paroxysm, attended with excruciating pain.

28th.—Vital signs this A.M. are P. 99, R. 24, T. 98⅘°, which are taken from the chart and differ only an inconsiderable amount from those of any morning or evening recorded during the illness. Over the lower half of the thorax and over the abdomen is an eruption, minutely punctated and rose-colored, raised above the surface in some places, and on a plane with said surface at other places. The abdomen is moderately tympanitic; there is tenderness on pressure over epigastrium, in right iliac fossa, and at various points along the right side of the body; constipation unrelieved.

31st.—Since date of last note the patient has been at times apparently well; the eruption is observed to be transient, the tenderness still a prominent symptom. There is no elevation of temperature, though the pulse is feeble and the borders of the tongue present a reddened appearance.

April 2.—Eruption appeared in same locality, and does not entirely disappear on pressure of the finger thereover; over the dorsal surface of hands and forearms are livid spots scattered profusely. The abdominal tenderness is more marked as the right iliac fossa is approached, and the whole abdomen is distinctly tympanitic.

3d.—Eruption this morning papular and macular, this evening typically lenticular. The bowels have been moved for the past few days by enemata.

4th.—During the forenoon severe pain in the right side, and this pain is aggravated by eating.

5th.—Temperature this afternoon during a paroxysm reached its maximum (101°).

6th.—No permanent relief afforded as yet; last evening for a space of three or four hours the suffering was intense, and was finally modified only by the administration of one-half a grain of morphia.

8th.—Over lower half of thorax anteriorly are six or eight oval spots one-eighth of an

inch in diameter, rose-colored, disappearing on pressure, and quickly reappearing when the pressure is removed. This afternoon the spots are not to be seen; the hypogastrium is excessively tender and painful, and, embrocations assisted by the internal administration of opiates having failed to relieve, a cantharidal blister is ordered, the vesicated surface for the three following days to be freely poulticed.

12th.—An amelioration so far as the extent of painful surface is concerned; normal evacuations without cathartics; but when deep pressure is made into the right iliac fossa the child cries aloud.

16th.—For several days there has been an intermission in the paroxysms, but to-day there is a severe recurrence.

18th.—The *left* hypogastrium is the seat of pain and tenderness, while the right is free.

The notes from this date to May 19 exhibit no marked changes in her condition. The diagnosis, of course, was obscured, and the various symptoms have been treated by such medicines as seemed indicated. At one time we felt convinced that metastatic disease of the ovaries was the ailment; at another time a clear case of typhoid fever would have been made out but for the negative facts as shown by the thermometer. One day the child seemed as well as ever, on the next day death was thought to be imminent. Dr. Knight was equally puzzled with myself, and it was decided to seek aid from our consulting board.

10th.—Dr. Flint, Sr., was called in consultation to-day, and gave, as his diagnosis, neuralgia of the bowels, advising therefor full doses of quinine.

11th.—About 10.30 A. M., a violent paroxysm of pain, followed by coldness of extremities and general tremor, collapse being momentarily feared. At 6 P. M., another attack, similar to that of the forenoon.

14th.—Since the 11th the patient has been perceptibly improving, and is now, to all appearances, entirely relieved.

28th.—Pains have returned, and equal in severity any yet experienced. A possibility of the menstrual function beginning induces us to administer emmenagogues, though the absence of any developments, either mammary or pubic, makes this extremely improbable.

June 6.—The emmenagogues have not afforded any relief, and the function has not been established. From this time to January, 1877, nothing permanent has been effected, the same condition prevailed, and we reluctantly, yet hopefully, intrusted the cure to time itself.

January 9.—On two separate occasions to-day, while the pain was at its height, there was considerable hæmatemesis, and there were observed two or three placques of a lenticular eruption over the abdomen. The child, on being questioned as to the locality of the pain, referred it to the abdomen, the back, and the thighs. The stomach was very irritable, and the hæmatemesis followed the last ingestion of food. The probability of vicarious menstruation then came up for consideration.

25th.—While passing my hand over the ilio-costal spaces this morning, seeking for points of greatest tenderness, the lumbar spine was incidentally touched, whereupon the child suddenly withdrew her body and cried out with pain. This tenderness I found to extend from the tenth dorsal to the last lumbar. A diagnosis, now, of spinal irritation was made, and a blister was ordered.

February 2.—The blister did not act as desired, very slight vesication being produced: poultices, however, were applied to the part, and there is already a change for the better. Spinal tenderness yet remains, and a second blister is ordered.

9th.—Very little tenderness in dorso-lumbar region, but in the middle dorsal it is present to a marked degree, and here the same course in treatment is pursued.

20th.—A fourth blister is ordered, in the hope of completing the cure, a faintly sensitive spot being found in the dorsal region.

March 6.—There is no tenderness anywhere; the child is perfectly well, and a cure is unhesitatingly pronounced. From that date to the present, July 17, 1877, not a sign of relapse has occurred, the patient being still in the hospital for the paralysis, and subjected to close observation.

Remarks.—In reviewing the notes of this case, I experience a certain feeling of self-condemnation: had the spinal column been examined at an earlier stage of the disease, a speedy relief, I am quite sure, could have been obtained. The obscurity of the symptoms, the nervous mimicry, and the pre-existing spinal paralysis, should have called my attention to the spine as the probable locality of the disease.

The diagnosis of the parotitis was easy enough, other cases being in the same ward. When the pains in the abdomen (referred especially to the region of the ovaries) followed, the interval itself suggested either ovaritis by metastasis, or, at least, an ovarian neuralgia. Still, I hesitated to diagnosticate the former without an elevation of temperature. Well, time wore on, and no relief came; then the attacks of extreme prostration, the eruption coming and going, the *lenticular* variety especially, the excess of tenderness in the right iliac fossa, and the moderate constipation (a common symptom in the typhoid fever of infancy), pointed strongly to typhoid fever, and, but for the thermometer, such a diagnosis would have

been unassailable. Later still, the visceral neuralgia, as diagnosticated by Dr. Flint, appeared plausible enough. Then came the hæmatemesis and the consequently presumable vicarious menstruation, deep pressure over the stomach inducing no pain and thus making the existence of a gastric ulcer improbable.

Whether the child had a severe fall to account for her disease, I know not; yet such a thing is not at all improbable, for her crippled condition makes her peculiarly liable to such accidents. The parotitis must be regarded as the exciting cause, in the absence of other facts. If one is familiar with the work of the Griffin brothers on "Functional Affections of the Spinal Cord," and later still the lectures of Sir James Paget on "The Nervous Mimicry of Organic Diseases," such a case as the one I have just related ought not to prove difficult of diagnosis. The treatment is simple, and indicates, to my mind, a clue to the pathology. The derivative effect obtained by the poultices to the vesicated surface, the absence of tenderness in cord-lesions, as proven by neuro-physiology, and especially the inability of a spinal anæmia to produce spinal tenderness (see various passages in Prof. Erb's contributions to Ziemssen's Cyclopædia, vol. xi.), point indubitably to a meningeal lesion. It will be remembered that on one or two occasions the temperature was as high as 101°, and ranged all along between this maximum and 98½°. A subacute spinal meningitis localized to portions below the cervical region could exist, it seems to me, with no higher range of temperature than prevailed in the present instance. Such a meningitis is sufficient to produce any degree of spinal irritation. Furthermore, the frequency with which we find spinal tenderness below the first lumbar vertebræ, the lower border of which marks the termination of the spinal cord, offers a serious objection to the spinal anæmia theory. A discussion, however, was not my purpose; and hence I shall conclude these remarks by a reference briefly to the etiology and the value of an early diagnosis. No physician with an extensive practice but can call to mind many an inveterate case of hysteria, and that, too, in the person of a young lady. He will remember the various neuroses as described to him on each recurring visit,—the localized perspiration, the clonic spasm of muscles in groups or individually, the prolonged abstinence from eating, the obstinate constipation, the loss of power in one or both lower extremities, the temporary neuralgias, etc., etc. All this he reluctantly calls hysteria. I have under observation at this time two just such cases, ladies just entering womanhood, who for four-and-twenty months have been borne from bed to chair and from chair to bed, and with all this monotony there are oft-recurring periods of suffering that would appall a martyr. And yet, whatever the pathological lesion now existing, the cause is traced clearly to a fall in each instance. One fell ten years ago from a scaffolding raised for school-room decoration, and, while the injury at the time seemed light, the six or seven years succeeding embrace a period of fatigue on the least exertion, pains in the back and side, and a "nervousness" peculiarly unpleasant. Her present helplessness, although having an exanthem as the exciting cause, is dependent on that fall as the predisposing cause. From the ease with which I have been able to trace varied nervous symptoms, in very many cases appearing at the out-door department of the hospital, to a fall from a height, I have come to regard concussion by this means as the most frequent of all the causes of spinal irritation; and hence when I find a young girl suffering from a sense of lassitude, neuralgias, and other neuroses that seem to belong to no special disease, I examine closely for any spinal lesion, and for the cause of such. If a suspected localized meningitis, however subacute or chronic, be the cause of the spinal irritation, I do not feel satisfied until perfect restoration is accomplished. These points of spinal tenderness, whether symptomatic of subjacent inflammation or of lesions in organs far remote and thus reflex, should not be passed unnoticed. Relief, even of symptoms, is here justifiable. When this is removed, the chances of a permanent cure are enhanced, be the pathology what it may.

135 East Forty-Second Street.

Messrs. Warner & Co., of this city, have received a letter of thanks and a testimonial of efficiency from the Egyptian Government for their sugar-coated pills (Vienna exhibit) presented some time since by them.

THE PERIOD OF MAXIMUM BIRTH-RATE.

BY H. G. LANDIS, M.D.,

Professor of Obstetrics in Starling Medical College.

"To everything there is a season, and a time to every purpose under the heaven: a time to be born, and a time to die," etc.—ECCLES.

IN the *Philadelphia Medical Times* for April 3, 1875, will be found an interesting article by J. Berens, M.D., on the period of maximum death-rate during the twenty-four hours. Such statistics may have little practical value at present, but they are full of suggestions, and when more complete may enable some one to work out vital problems of great importance. The poet observes, "Every minute dies a man, every minute one is born." There is, however, a popular opinion that the great majority of babies are born in the night-time. If this were so, the views of Clay, of Manchester, who does not admit any variation in the term of utero-gestation in individual cases, might be regarded as receiving some corroboration; for, since the majority of babies are made in the night-time, they might, from this exact view, be expected to be born at the corresponding season. With a view to contributing to our knowledge of vital statistics, I have tabulated the hour of birth in three hundred consecutive cases of labor at full term, trusting that others will secure and record ampler data. For 300 the average number in any hour would be 12½. A glance at the table shows us a maximum between 5 and 8 A.M., so far corresponding with the maximum death-rate, which was found to be between 6 and 7 A.M. But we find a secondary high-tide in the evening, scattered along from 6 to 11 P.M., and, instead of the gradual decrease after the maximum which characterized the death-rate, each of these high-tides is followed abruptly by a minimum period, viz., from 8 to 9 A.M. and from 11 to 12 P.M. The latter minimum also corresponds with the period of minimum death-rate. There is a third period of scarcity, between 1 and 3 P.M., which appears to be accidental. As to the matter of night and day, we find from 6 A.M. to 6 P.M. 130 against 170 in the remaining period, an excess of 13⅓ per cent. for the night-time. In the paper alluded to above, the case is reversed. The deaths from 6 A.M. to 6 P.M. are 10⅘ per cent. in excess of the remaining period. With the probability that larger statistics may greatly modify these facts, I do not feel encouraged to draw any conclusions. This, at least, may be said: many cases of labor are protracted through a long period without any assignable cause. A few pains may arise, the os become dilated to the extent of an inch or even more in diameter, when the pains will become feeble or infrequent and no progress occur for hours. Then the womb, more or less suddenly, gets to work again, and in an hour or less the labor is ended. It is, therefore, quite possible that the solar and atmospheric influences upon the general vitality have a part in determining the occurrence of such intervals of uterine inertia, and, therefore, in influencing the time of birth.

From midnight to	No.	In 6 hrs.	In 12 hrs. (daytime.)	In 12 hrs. (night-time.)
1 A.M.	14			
2 "	16			
3 "	16			
4 "	10			
5 "	12			
6 "	18	86		170
7 "	18			
8 "	16			
9 "	5			
10 "	13			
11 "	11			
12 M.	12	75		
1 P.M.	10			
2 "	6			
3 "	6			
4 "	11			
5 "	12			
6 "	10	55	130	
7 "	15			
8 "	15			
9 "	17			
10 "	14			
11 "	16			
Midnight	7	84		

DIALYZED IRON.

BY GEORGE HAY, M.D.

UNDER the heading "Leading Articles" in No. 252 of the *Times* appears an article on Dialyzed Iron. Having procured from one of the druggists in this city a sample labelled "Wyeth's Dialyzed Iron," I proceeded to examine with the view of determining the quantitative relation between the chlorine and the metal in this preparation. Whether the relation ascertained by me in one instance will always be a constant relation it is impossible for me to tell, and whether the sample was untampered with I cannot say (though it is not likely to have been tampered with), as it was not obtained directly from Messrs. Wyeth & Brothers. The sample diluted with distilled water remains a perfectly clear solution. The addition of three vol-

umes of water to a portion of the sample causes no precipitation even after prolonged boiling of the solution. The oxide of iron is completely precipitated by ammonia, as the ordinary hydrate of sesquioxide of iron. Contrary to what might have been expected, I find that the cautious addition of dilute hydrochloric acid to the diluted sample causes precipitation, which is accelerated upon boiling, and at the same time a small portion of the oxide is dissolved as ordinary sesquichloride of iron of a pale-yellow color. This precipitation takes place more quickly with dilute sulphuric acid, and much more slowly with dilute nitric acid. The hydrate which is precipitated by these acids is very much lighter in color than that which falls upon the addition of ammonia, and is probably a different hydrate. After precipitation by hydrochloric acid it requires a pretty large addition of the acid to redissolve the precipitate, and then the solution is only the ordinary chloride of iron, and much lighter in color than formerly, being now of a pale yellow. One cubic centimetre of the solution weighs 15.866 grains, or rather more than the gramme (15.434 grains). I find that 100 weighed grains of the preparation yield of anhydrous sesquioxide of iron 3.828 grains, and of chlorine only .207 grain. Now, .207 grain of chlorine are equivalent to .316 grain of anhydrous sesquichloride of iron. This last quantity contains .109 grain of metallic iron, which again are equivalent to .155 grain of anhydrous sesquioxide of iron. Deducting .155 from the 3.828 grains of anhydrous sesquioxide already found, there remain 3.673 grains of sesquioxide in solution, without any chlorine or anything else to maintain it so, except water. Probably under the peculiar circumstances the chloride acts as a catalytic body, and by its mere presence keeps the large amount of hydrate of sesquioxide of iron in solution, and probably also the hydrate is not the ordinary hydrate containing three molecules of water; but it quite possible that during the osmotic process the hydrated sesquichloride of iron containing twelve molecules of water becomes a similar hydrate by substitution, or perhaps is even more highly hydrated and so becomes soluble in water. The disparity between the chlorine and the iron is such that there seems to be little probability that they exist together as a compound, and it would appear very astonishing that so small a quantity of chlorine could hold in solution so large a quantity of iron, especially when the iron exists as hydrate of sesquioxide, and the fact is remembered that, so far as is known, the oxides and chlorides of this metal have always been found to be the analogues of one another. It would require a very great deal of very patient and laborious work to find out how this iron is kept in solution, if, indeed, it could be discovered and explained at all; but the fact remains that this is a very elegant preparation of iron, and that is all which the practical physician requires to know.

Analytical Laboratory, 45 South Diamond Street, Allegheny City, Pa., August 10, 1877.

NOTE ON THE CHEMICAL STUDY OF COTTON-ROOT.

BY JOHN K. FOULKROD.

ALTHOUGH the root of the cotton-plant has been used to some extent in the South and West, we are still in the dark as to its constitution; and the following notes of an investigation of it seem worthy of being put on record:

The bark of the root was reduced to a coarse powder, then digested in water strongly acidulated with sulphuric acid. It was then filtered, the liquid being of a red color. Ammonia was added until the precipitate ceased falling: the precipitate was of a purple color. The precipitate was collected, washed, and added to water acidulated with sulphuric acid, with the hope that it would form the sulphate of the alkaloid, if there should be one; but I was not successful. The bark of the root, reduced to a coarse powder, and macerated in water, was then thrown upon a filter; the filtrate was of a deep-red color; to this was added acetate of lead until the precipitate ceased falling. It was again filtered; the solution was treated with sulphuretted hydrogen gas to precipitate the lead, and was again filtered; the solution was evaporated over a water-bath, but I did not succeed in finding an alkaloid.

Being unsuccessful in finding an alkaloid, I then experimented for a resin.

A portion of the bark of the root was exhausted with alcohol. The tincture was of a deep-red color; it was then distilled to separate the alcohol. After removing the alcohol there was left a dark-red resinous mass. The resinous mass was removed, and reduced to a coarse powder. The resinous matter was found to be insoluble in alcohol, chloroform,

ether, and aqua ammoniæ, but soluble in a solution of caustic potassa.

A portion of the bark of the root was macerated in cold water, and the solution was tested for the following:

Tannic acid.—Sulphate of iron gave the blue-black color.

Starch.—Tincture of iodine gave the characteristic color of iodide of starch.

Vegetable albumen.—Corrosive sublimate and heat.

Grape sugar.—Sulphate of copper and solution of potassa.

The bark also contained a red coloring-matter, soluble in water, ether, chloroform, and alcohol.

When ammonia is added to a solution of the coloring-matter in water containing a few drops of sulphuric acid, it turns quickly to a deep purple. On adding a few drops of an acid it resumes its original red color. This action is somewhat like that of litmus.

REPORT OF CASES OF FEMORAL ANEURISM.

BY GEORGE S. HULL, M.D.

THE following cases are reported as exposing the means of treatment most favored in femoral aneurism by Professor D. Hayes Agnew, in whose service they occurred at the University Hospital:

Case I.—Joshua P., colored, æt. 36, native of the United States; was admitted on December 26, 1874, suffering from a fusiform aneurismal tumor about the size of a goose-egg. It was situated just below the apex of Scarpa's triangle, on the inner aspect of the thigh. It had been first noticed about six weeks before admission, and was believed to be of traumatic origin. The patient was kept at rest in bed, with the limb elevated, and put upon restricted diet, with the slight exhibition of tinct. aconiti rad.

On January 6, at 7.40 P.M., digital compression was commenced. At 1 A.M. of the following day, on account of pain, one-sixth grain of morphiæ sulph. was given by hypodermic injection, and at 7.30 P.M. pulsation in tumor ceased. The pressure was continued until 5.40 A.M. of next day, when the man was still in a good condition. Pulsation did not return, nor did any bad symptom arise from the treatment. He improved rapidly, and on the 16th was discharged, well.

Case II.—On the 14th of May, 1875, Dennis F., æt. 47, native of Ireland, was admitted. He was an active, robust, intemperate laborer. He stated that five months before, he noticed a small, pulsating tumor, about the size of a chestnut, in his right groin. On examination there appeared in that region a great bulging, constricted in the line of Poupart's ligament, which formed through it, near its middle, a slight sulcus. The outlines of the tumor could be made out as extending from two and a half inches above the middle of Poupart's ligament to two inches below it, and from one-half inch to inner side of anterior superior spinous process of ilium across to near the median line.

It was evident that the aneurism, besides being situated on the femoral, involved considerable of the external iliac, as most of its bulk was above Poupart's ligament in the abdominal cavity. He could assign no cause, except that eight or nine months before, while walking, he received a severe sprain of the ankle-joint, from which he was laid up and made to suffer very severe pain, extending up to the knee, and even shooting up the thigh.

The man was put at rest in bed, and on the 17th, at 7.05 P.M., an abdominal tourniquet adjusted, and compression commenced upon the abdominal aorta. At 10.45 P.M., on account of the great pain produced by the tourniquet, ether was administered, and at 12 o'clock compression ceased. As a result, there was a marked diminution in the strength of the pulsation, and the tumor felt much more firm and inelastic, the patient complaining of stiffness in his groin.

On the 22d, at 2 45 P.M., compression was resumed, ether being commenced at 3 P.M. At 6.45 tourniquet was eased up, and, there still being pulsations, it was screwed down again, and kept in position till 2.45 A.M. of the 23d. On removing the pressure the pulsation was quite feeble, and there was an apparent increase in the size of the tumor (likely on account of its true dimensions being brought out by the pressure of the solid clot forming in it). There was during the compression no marked fall in the temperature of the limb.

The patient was then kept quiet for a couple of days, and upon liquid diet, laudanum and lead-water being applied to surface of tumor, as he complained of pain. Although the pulsation seemed growing less, and the tumor firmer, it was thought best to resume pressure, applying it but a short time daily. Accordingly, on the 29th, ether was given, and the tourniquet kept in position one hour and ten minutes, after which the impulse of tumor was hardly perceptible. On the 30th all pulsation ceased, and the tumor felt quite firm and hard, the temperature of the limb being but little below normal. Kept quiet in bed, with limb flexed and elevated. On June 6 was discharged, cured.*

Case III., which came under the writer's observation, and which proved so interestingly obstinate, will be described somewhat more minutely.

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* The reports of these two cases are condensed from the notes of Dr. Wm. M. Mastin, of Mobile, then Resident Surgeon, by whom the directions of Dr. Agnew were carried to their successful termination.

Thos. L., æt. 41, native of the United States. Since the age of fourteen has suffered much from rheumatism; otherwise his health has been good. Has taken alcoholic drinks but moderately, and has never contracted syphilitic disease. During the late war was much exposed. Is a tailor, and to his trade ascribes the cause of his affection; says the table over which he leaned for years cutting goods produced almost constant pressure in his right groin, and gave him at times much pain, and, this symptom increasing, he noticed about two years ago a small tumor in that region. The tumor during the first year grew slowly, but since then has increased rapidly in size, being at the present time about one-half larger than a goose-egg, and possessing to a marked degree the aneurismal bruit and thrill. It is situated upon the upper part of the femoral artery, its upper fourth pressing towards the abdominal cavity, seemingly under Poupart's ligament. He complains of occasional sharp pains shooting down to the knee, and, being of an extremely nervous temperament, worries much and sleeps poorly.

Sept. 2.—Having been at rest and upon nutritious, unstimulating diet for some time, treatment, consisting of pressure upon the abdominal aorta by means of the abdominal tourniquet, was commenced to-day. Complaining soon of pain, a hypodermic injection of one-quarter grain of morph. sulph. was given, and in one hour repeated. The pressure, which completely controlled the pulsation, was kept up two and half hours, being removed on account of the shock the patient was receiving. Aneurism still pulsated. The limb was secured in a flexed and elevated position, its temperature being 94° F., while that in the mouth was but 94⅜° F.

Sept. 3.—Compression resumed; morphia failing to relieve pain in the course of an hour, ether was resorted to. After three hours' constant pressure, the tourniquet was removed on account of patient's weak condition, temperature in axilla being 96¾° F., in right popliteal space 92° F. Aneurism pulsated feebly, but as the heart regained its strength it followed suit and negatived the result.

Sept. 6.—Patient, after refusing treatment for several days, again submitted to compression for an hour and a quarter, but without any favorable result.

Sept. 7.—Tourniquet applied, under ether, one hour and ten minutes; pulsation undiminished. Temperature fell but ½° in right limb. Taking nourishment well, and not losing much strength.

Sept. 9.—One-half hour after adjustment of abdominal tourniquet, liquor ferri subsulph. (℥ⁱx) was injected into aneurism; one-half hour later, the pressure was eased up very gradually. Pulsation returned, nor was any favorable change noticeable. Temperature of right limb fell but ⅕° F. Passed a comfortable night.

Sept. 10.—Abdominal tourniquet was placed in position, and a small horseshoe tourniquet applied to femoral below the aneurism. Pressure was made upon both points, and in half an hour ℥ⁱx of Monsel's solution again injected. In two hours abdominal pressure was very gradually removed, some pulsation returning; one-half hour later, femoral tourniquet was taken off, and another failure completed. At this time temperature of right leg was 94° F., owing, no doubt, to femoral tourniquet's interference with the collateral circulation. In the evening had a slight chill, temperature rose to 103⅕° F., pulse 116, and he passed a restless night.

Oct. 11.—Since last date abdominal aorta has been compressed twice without any favorable result. This morning sufficient pressure to almost stop the flow of blood through the aneurism being made upon the abdominal aorta, Dr. Agnew introduced six long and very fine acupuncture-needles into and through the tumor, in the form of a circle, the points converging. In half an hour pressure was increased so as entirely to stop pulsation, and in two hours gradually eased up; the aneurism recommenced pulsating with an apparently undiminished force. In the evening the abdominal tourniquet was again used, but without success.

Oct. 12.—The femoral tourniquet was used in the morning, and the abdominal in the evening, when, the patient refusing to endure more, the needles were withdrawn and the blood allowed to flow gradually through the aneurism, which soon pulsated with its former vigor.

Nov. 6.—On October 17, patient went to his home, to recruit and decide whether or not he would submit to ligation of the external iliac. Returned to-day, with his aneurism considerably increased in size, and, giving his consent to the operation, Dr. Agnew ligated the external iliac. The operation was complicated on account of adhesions made by the pressure of the tumor, which proved to be sacculated, the disease in the artery not extending above the femoral. During the operation the carbolic spray (1 in 40) was made use of, and the external iliac was tied with a double carbolized animal ligature, the ends being closely cut off. Lister's dressing was applied. The aneurism remained quiet, and in the evening the temperature in mouth was 102° F., right limb (wrapped in cotton) 101½° F., left, the same.

Nov. 9.—Has complained but little since operation, and both limbs have kept equal in temperature. Dressing was changed to-day, under carbolic spray; no suppuration.

Nov. 15.—Considerable gaping of edges of wound; beginning to suppurate freely. Tumor feels soft, and contents seem to be fluid.

Nov. 20.—A small black point has appeared on surface of tumor, and is extending. Patient suffering from exhaustion.

Nov. 22.—Exploring needle shows contents of sac to be a dark, thick, fluid blood.

Nov. 25.—Point of slough has increased to one-half inch in diameter, and is covered with a large clot, from under which there is some slight oozing.

Nov. 26.—This morning early, aneurism ruptured at point of slough, and a violent hemorrhage resulted; it was controlled by the femoral tourniquet, proving it to come up from below (the abdominal tourniquet, which was screwed down first, failed to influence the flow of blood). Dr. Agnew arrived, and preparations were made to ligate the femoral; on removing the tourniquet, and a violent hemorrhage taking place, he laid open the entire sac, and, plugging the patulous vessels below with a towel, cut down on the femoral and tied it; on removing the towel, blood still flowed from the sac, and it was found necessary to ligate the profunda. Hemorrhage now ceased, and the patient lay back exhausted; he continued to sink, soon became unconscious, and in a half-hour passed beyond the effect of stimulants, etc. When he ceased being able to swallow, and became unconscious, hypodermic injections of whisky revived him sufficiently to permit of his recognizing his mother, but soon lost their effect.

A general *post-mortem* was not allowed, though permission was given to examine at the seat of operation. The aneurism proved to be sacculated, spreading chiefly upwards and outwards, with its base extending from juncture of external iliac and femoral down to profunda, and involving it. There were no indications of a clot having formed in the sac, and its walls were at some places quite thin. On looking at the seat of ligation, the closest examination failed to detect any trace of the double animal ligature: it had cut its way completely through and then disappeared. A portion of the artery above the seat of ligation was removed; its walls were contracted, and its coats, especially the intima, very much thickened, by which conditions the calibre of the vessel was very much diminished, though not entirely obliterated, as a small probe could be laid in it. (There was no hemorrhage from this point during life.)

Remarks.—In this last case the complete failure of the means so successful in the other two cases might be ascribed to a want of the plastic or coagulable element of the blood. The patient had been for some time in bad health, the result of exposure and malaria; he also was a sufferer from hemorrhoids, and was of an extremely nervous disposition, almost hysterical. The injections, needles, and finally the ligation, failed also, and went further to prove the poverty of the blood in this important property.

In these, as well as other cases found in the hospital books, compression, both digital and instrumental, has been the means most favored in the treatment of aneurisms. Where there is a choice, digital compression is much to be preferred; collateral circulation is less interfered with, and the small amount of blood which escapes the fingers and flows through the aneurism helps to keep up the temperature of the limb, besides favoring the deposit of a laminated clot, which, being deposited slowly, is more firm and serviceable than the large soft clot produced by a sudden and complete stoppage of the circulation through the aneurism by means of the tourniquet, etc.

When digital compression cannot be used, instrumental pressure employed for a short time, and at intervals, may accomplish the same good result as in Case II., where each compression increased the firmness of the tumor till it finally ceased pulsating in the interval between the compressions. The use of the tourniquet, however, is not a little dangerous, especially when it is applied for a long time during the first compression, death of the limb being the more than possible result, while digital compression seems almost harmless, even when persisted in for a long time. Only a few days ago a case came to my knowledge where digital compression was kept up constantly for three days, with a successful termination; and there have happened in Dr. Agnew's ward, within the last year or two, three cases of popliteal aneurism where perseverance in digital compression brought about a successful issue.

In cases where ligation of the artery supplying an aneurism fails to produce a clot, as in Case III., the contents remaining fluid and blood entering the sac from below, it would seem advisable to ligate the artery leading from the aneurism as soon as the collateral circulation was sufficiently established not to endanger the life of the limb.

Waterproof Paper.—A nice article, transparent and impervious to grease, is obtained by soaking good paper in an aqueous solution of shellac in borax. It resembles parchment paper in some respects. If the aqueous solution is colored with aniline colors, very handsome paper for artificial flowers is procured.

TRAUMATIC NEURITIS INVOLVING THE BRACHIAL PLEXUS.

BY CHARLES K. MILLS, M.D.,

Lecturer on Electro-Therapeutics in the University of Pennsylvania, Chief of the Dispensary for Nervous Diseases, University Hospital.

THE following case, which was observed at the Hospital of the University of Pennsylvania, in the service of Professor H. C. Wood, is of considerable interest because of its severity, peculiar character, and the favorable result of treatment.

J. D., aged 32, two years before coming under observation, had his left arm caught in a belt and was carried several feet from the floor. The arm was broken about the wrist, the middle of the forearm, and near the shoulder. It was also badly twisted, and since the accident had been entirely helpless. He could not move the arm, forearm, or hand in any direction. On attempting motion, pain and violent tremor would ensue. He carried the hand in a sling. The limb was somewhat wasted, but did not present the extreme atrophy which is noticed in some cases of spinal or nerve injury.

From an irregular line around the arm about two inches above the elbow, a district of highly-marked hyperæsthesia extended upwards, including, when he was first seen, the outer part of the shoulder, and afterwards spreading until it embraced the left breast, side, and back, in the scapular and suprascapular regions. He had constantly considerable pain in the hyperæsthetic area, and touching or handling him gently would cause extreme suffering, and bring about fibrillary twitchings in the thoracic muscles. The pain and hyperæsthesia usually got much worse in the evening and during the night.

From the line of demarcation, two inches above the elbow, downwards the limb was anæsthetic. Analgesia, or loss of the sensation of pain, seemed complete. Compass-points could be jabbed into his forearm and hand with impunity; and to the same parts a strong faradic current could be applied without causing the patient any pain or inconvenience, unless the application was so made as to jar the entire limb. Electro-contractility was good. The skin was pale and smooth-looking.

The third and fourth dorsal vertebræ became tender to pressure while the case was under notice; and when at its worst, slight hyperæsthesia was present on the *right* side of the spinal column, in the scapular region.

This patient had been subject to epileptic seizures for twelve years. They were supposed to have originated from sunstroke. Since the accident to his arm they had been less frequent and less severe. He had never had any form of venereal disease.

The treatment pursued in this case has extended over nearly ten months, and will be briefly summarized. Bromide of potassium was given, mainly with the view of controlling the epileptic attacks. Iodide of potassium and the bichloride of mercury were administered for several weeks. At one period he was blistered over the dorsal vertebræ, and later the actual cautery was repeatedly applied. Morphia was sometimes used by the mouth or hypodermically. Galvanization of the hyperæsthetic district was employed. A weak current, usually from about five cells, was employed, applying one rheophore, generally the cathode, to the cervical spine, and the other to the affected region. The application nearly always relieved temporarily the pain and hyperæsthesia.

Six months after coming under treatment the patient was, on the whole, rather worse than when first seen, although he had several times temporarily improved. He was then ordered to use by inunction upon the arm and shoulder about a drachm daily of a prescription containing equal parts of ointments of mercury, of iodine, and of belladonna. Four weeks after beginning this treatment the pain left his arm and side, the hyperæsthesia and anæsthesia also rapidly disappearing. He steadily improved, and has now, nearly three years after the accident, made a complete recovery from the neuritis. The motions of the shoulder, arm, forearm, and hand, have all returned, and under faradization the muscles are all rapidly regaining tone and strength. A few days after the improvement set in, his mouth began to show signs of mercurialization; but the inunction was continued until well-marked salivation was produced. Chlorate of potassium and cinchona were subsequently employed to relieve the ptyalism.

Remarks.—In this remarkable case some of the great branches of the brachial plexus were probably severely injured, by torsion, tearing, or pressure, at the time of the accident. The neuritis which was set up seems to have radiated to nearly all the nerves of the plexus, as well as to other nerves, and involved, to a limited extent, the spinal cord. The neuritic process even appeared at one time to have extended across the spinal cord to the right side. The inflammatory condition of numerous nerves and their branches was doubtless the cause of the pain and hyperæsthesia, while the total anæsthesia below can be explained on the view of Niemeyer, that inflamed nerves are bad conductors, and hence convey peripheral impressions incompletely, or not at all, to the brain. Whether the cure was spontaneous, or the result of the treatment by inunction, the

reader may judge for himself. For myself, I believe that it was in great part, at least, due to the treatment. According to Erb, the sovereign remedy for all the more chronic forms of neuritis is the galvanic current; and I have myself found it of great service, both as a palliative and curative agency. In the case just reported, galvanization with a weak current would relieve the pain and hyperæsthesia more effectually and for a longer time than any other remedy; but it was difficult to carry out the electric treatment with absolute regularity, and to include every portion of the wide neuritic area in each application.

NOTES OF HOSPITAL PRACTICE.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF NEW YORK.

CLINIC OF DR. JOHN T. DARBY.

Reported by Dr. P. B. PORTER.

AFTER a few introductory remarks, Dr. Darby spoke somewhat as follows: I commence the lecture to-day, gentlemen, by showing you the result of an operation for the removal of scirrhus of the right breast, which some of you saw me perform not long since. The diagnosis of scirrhus was easily made from the clinical signs characteristic of that affection, and after the extirpation of the tumor its correctness was demonstrated by a careful microscopic examination made by Dr. Arnold. It is always satisfactory to have the "endorsement" of the microscope in such cases. In removing these malignant growths with the knife it is my constant practice to cut well into the surrounding healthy tissue, so as to be sure that the entire mass is gotten rid of. I then invariably leave the wound entirely open, and thus allow granulation to take place, washing the part with a solution of chloride of zinc. This idea I obtained from Mr. Campbell Morgan, who has probably had a larger experience in this department of surgery than any other living authority. It is just the opposite plan from that which I would have pursued if the tumor had been benignant; for in that case I should have closed the wound immediately, with the object of obtaining union between the two surfaces as rapidly as possible. In the present instance, when the wound began to granulate, it afforded a very good opportunity for skin-grafting, and this has been employed here with excellent effect; and while the amount of raw surface was formerly as large as my hand, you now see that the cicatrix is scarcely two inches in extent in one direction and an inch and a half in the other. The little papillæ observable upon its surface are merely exuberant granulations, or proud flesh, and these I will touch with a pencil of nitrate of silver.

I am of the opinion that the cancerous disease has been entirely eradicated in this case, and that our patient has as good a chance of a long life as any other woman. Still, as the growth may possibly return, as sometimes happens, we will be on our guard and watch carefully for the signs of any new development of the trouble.

To-day I attended the funeral of a patient of mine (this, of course, is not a pleasant thing to do, but you will get accustomed to it), who had extraordinary infiltration of the tissues of the arm, shoulder, and chest-walls, and enormous enlargement and induration of all the axillary, cervical, and other glands, as the result of scirrhus of the breast. She went to a quack last September and had the tumor extirpated by means of caustics. After that she believed herself entirely cured, and it was not until the day before her death that she could be persuaded that she was really suffering from cancer still. Yet it was decidedly the worst case that I have ever met with in all my experience. The immediate cause of death was effusion into the pleuræ, dependent, like the other infiltrations, upon the carcinomatous disease.

The next patient I have to bring before you is the young girl upon whom, as you will doubtless remember, I operated for the relief of the contractions caused by a very severe burn of the palmar surface of the hand. She is looking bright and well, as you see, because she is now free from suffering; but the operation has not been a success, owing to the manner in which the after-treatment was carried out. The patient was placed under the care of two gentlemen of the class, who were so zealous in attending it that they succeeded in producing mortification by bandaging the part too tightly. It was, consequently, with the greatest difficulty that we could

save the hand at all; and, of course, all measures to maintain it in the position which had been secured by the operation had to be given up. I always like to show results, whether our efforts are followed by failure or success. A little later I trust that we will be able to do something more for this girl, so that she can abduct the thumb and adduct the little finger, which it is now impossible for her to do.

This man has also been at the clinic before, and is suffering, you will remember, from gelatinous nasal polypi. He came here with both nostrils filled with them, and at that time they were entirely removed. But this condition is difficult to cure, unless we resort to two or more operations; differing in this respect from the ordinary fibroid polypus. The procedure is simple enough, however, consisting merely in the breaking down and removal of the gelatinous masses by means of the forceps.

The next patient is a heavy-built individual, who, as his appearance indicates, is given to not infrequent sprees and the rows and quarrels which so commonly result therefrom. In one of these pleasant little encounters a friendly companion knocked him down and then affectionately bit a good-sized piece out of the end of his nose.

The operation which I propose for the correction of the deformity occasioned by the loss of the tip of the nose is as follows. I shall first make a deep incision in the face just beyond the ala of the nose, so as to allow greater mobility of the cartilage and a more perfect approximation of the surfaces to be united; and in doing this I may possibly cut the angular artery, though I shall avoid doing this if I can. Then I shall clip away all the cicatricial tissue left by the healing up of the wound, and bring the healthy parts on its two sides in apposition by means of suture. The material of which the sutures are composed should be one which is not absorbed, such as silver wire or horse-hair; and I prefer the latter, on account of its cheapness and delicacy. The hair should be taken from the mane and not the tail, and it should be used with a fine conjunctival needle, which will occasion the minimum amount of irritation and probably obviate the setting up of any inflammatory action.

We now proceed to etherize the patient; and you perceive that it takes a considerable time to bring him under the influence of the anæsthetic,—which is always a difficult thing to do in the case of men of his class, who drink a great deal. This accomplished at last, I make the incision of which I spoke, about an inch and a half in length, and now, you see, I have dissected up the tissue until I can get my finger completely under the ala of the nose. Then I begin to pare off the cicatricial tissue left by the bite, first using the scalpel and then the scissors; and you have no idea how hard this cicatricial cartilaginous tissue is to cut. At length I have succeeded in making a bigger hole in the man's nose than he had there before; and this is done, as I explained, in order to get healthy tissue for the surfaces that are to be approximated. Finally, I pass my sutures, three in number, and make them quite deep, so as to secure good union. A plug will be placed in the incision by the side of the nose, for the purpose of preventing too great suppurative action, and then two strips of adhesive plaster, one passing to the opposite cheek and the other up to the forehead, will be applied, to assist in keeping the parts in position. If our patient doesn't get off on a frolic, he will doubtless have a very good nose as the result of the operation; and it will take from two to three weeks for the completion of the healing process.

TRANSLATIONS.

Lupus of the Vulva.—Under the title *Esthiomène de la Vulve*, Siridey (*Centralbl. f. Med.*, 1877, p. 224; from *Ann. de Gynéc.*) gives the case of a woman, 29 years of age, who was accustomed to indulge in sexual intercourse to excess, and at the same time was very dirty in her habits. About a year before coming under S.'s observation she was obliged to give up intercourse on account of the pain and bleeding which it caused. Small watery blebs developed upon the labia, accompanied by intolerable itching. When scratched they became confluent, the parts became swollen so that the patient could not walk. Small wart-like prominences appeared on the infiltrated skin, while a large ulcer appeared on the inner surface of the vulva. The internal genitalia were not affected. The treatment consisted of good food, cod-

liver oil, preparations of iodine, and sulphur baths. The ulcer was touched, first with tincture of iodine, then with chromic acid, and finally with iodoform. Entire cure resulted. X.

SUBCUTANEOUS INJECTIONS IN HÆMOPTYSIS.—Dr. Jos. Hirschfeld (*Wien. Med. Presse*, 1877, p. 724) alludes to the various methods used to combat bleeding from the lungs. Cold acts reflexly in contracting the vessels and restricting their lumena, and thus aids the formation of a thrombus. Swallowing bits of ice is preferable to the external application of cold. Whatever be the therapeutic means employed, it is aided by deep inspiration and holding the breath, on the patient's part (except when the bleeding occurs from a cavity). The compression exerted by the forcibly inspired and retained air exercises undoubtedly a certain pressure upon the vascular walls and the gaping wound. With this object, Hirschfeld causes the patient to suck a cooling drink, slowly, through a glass tube. The forced inhalation of astringent medicines has not succeeded so well as was expected. Where it has acted well, this is probably because of the deep inspiration accompanying. Styptics, like alum, acetate of lead, tannin, chloride of iron, etc., which reach their destination only after digestion, are of little value, and not unfrequently upset the stomach. Among narcotics, digitalis is most important; in increased cardiac action, and particularly in cases where an uncompensated cardiac deficiency is at the bottom of the trouble, it is a useful though slowly-acting remedy.

The sovereign agent in hæmoptysis, however, is ergotin, which, as is known, acts as a vaso-constrictor. For this use of ergotin we are indebted to Drasche, who recommended its hypodermic use in 1871. Aside from the rapid and active action of this agent, when employed in the manner mentioned, every physician knows how difficult it frequently is to get a patient suffering from hæmoptysis to take anything by the mouth: a remedy which can be kept always ready and can be administered hypodermically is therefore a prize. Ergotin is best administered in glycerin solution (1 to 10). After the injection considerable sensitiveness exists about the puncture, followed by a sensation of warmth, and slight reddening, which disappears in the course of eight or ten hours. It is well known that patients who suffer from repeated attacks of hæmoptysis are found in a condition of marked psychological excitement, since they well know the risk they run. This psychological disturbance allows the patient to rest with difficulty or not at all: this rest is, however, very necessary, if the hemorrhage is to be controlled. In addition, there is also the irritation of the blood poured out, which is loosened by repeated attacks of coughing, thus keeping up the hemorrhage and preventing the closure of the vessel by a thrombus. In order to avoid this, H. is accustomed to precede or accompany the ergotin injection by one of morphia. Under the influence of the latter, rest and the resultant quiet of the parts ensue, and the ergotin is enabled to exercise its hæmostatic influence to the best advantage. X.

ARSENIC IN MALIGNANT LYMPHADENOMA.—Dr. Winiwarter (*Wien. Med. Presse*, April 29, 1877; from *Med. Jahrbücher*) regards arsenic as the most efficient remedy yet employed for the relief of this usually fatal malady. In most cases it has the effect of lessening the size of the enlarged glands, both on the surface and in the interior of the body. The best effects are to be hoped for from the internal use of the remedy combined with its employment in the form of parenchymatous injections into the enlarged glands.

W. usually gives Fowler's solution in connection with iron (the dialyzed oxide), in small doses (gtt. 2 to 3) at first, gradually increased in order to prevent upsetting the stomach. The dose may be increased by one drop every second or third day. W. has run the dose gradually up to as much as twenty-five to thirty drops thrice daily, before perceiving any symptoms of intolerance, and has then been able to combat the latter by the addition of minute amounts of tinct. opii.

After reaching this maximum it is better to decrease the dose; but this should be done gradually. The parenchymatous injections are to be made with simple Fowler's solution, in small quantities at first, later as much as one-third syringeful once or more daily. When these injections give rise to considerable local pain, as is frequently the case, hot fomentations may be applied to the affected part. One of the few discomforts attending the prolonged use of arsenic is sleeplessness; this may be prevented ordinarily by taking

a glass of beer at bedtime, or, if this is insufficient, a few doses of bromide of potassium, thirty to fifty grains daily. Occasionally skin eruptions follow the use of the arsenic, and a certain intermittent form of fever is a usual accompaniment of the treatment. The good effect of the arsenic lasts about a year, but relapses yield readily to this medicine.

Subcutaneous Injection of Carbolic Acid.—Mader (*Centralbl. f. Chirurgie*, No. 24, 1877; from *Pester Med. Chir. Presse*) injected under the skin of the back of his hand a syringeful of two per cent. solution of carbolic acid. At the end of a few seconds he began to experience a sensation of burning; then followed a feeling of tingling, which spread quickly from the point of injection to the inner surface of the corresponding finger. Anæsthesia of the back of the hand remained very decided for some hours. Two hours after the injection a tolerably strong faradaic current was passed through the limb without arousing any sensation. Subsequently Mader practised injections of the same kind in twenty-three cases of rheumatic arthritis, over the affected joints. In three very feverish patients the effect of the first injections was surprising, pain and swelling rapidly disappearing; later relapses yielded to the injections. In the apyretic form of the affection improvement as regards pain took place in eleven cases after the injections, in six cases the effect was doubtful, while in one the patient became worse. Chronic swellings of the joints were in no case removed. In six cases of neuralgia of the ischiatic remarkably good results were obtained. In muscular rheumatism, pleuritic pains, in pneumonia and pleurisy, the injection of carbolic acid exercised a very quieting effect. On the other hand, no beneficial result was obtained in erysipelas migrans, the affection overstepping the boundary and spreading about over the injected locality with the same rapidity as elsewhere. x.

Shock.—V. Nussbaum (*Centralbl. f. Chirurgie*, 1877, p. 328) asserts that for very many heretofore obscure cases of unexpected fatal collapse after operations a satisfactory explanation may be found under one of the following heads.

1. Acute sepsis, particularly from contact of large actively-absorbing surfaces with septic fluids. Experience in ovariotomy and striking experimental researches give good grounds for this. 2. Acute anæmia after severe hemorrhage, particularly in weakly and old persons. 3. Fatty emboli, particularly of the capillaries of the lung after extensive splintered fractures. Especially in very strong people death may occur in this way occasionally, with symptoms of severe sudden dyspnœa. Finally, that chilling of the omentum experimentally proved by Wagner must be particularly referred to as a cause of fall of corporeal temperature, with the resulting symptoms elsewhere referred to, in operations within the abdomen. Acute sepsis and paralysis from chilling may be best combated, according to V. Nussbaum, by careful antiseptic procedures and the prevention of chilling by means of warm applications. By way of example, V. N. cites a case of laparotomy on account of intussusception. The operating-room, the antiseptic solutions, and the bandages, etc., were all warmed. The patient's body was wrapped in warm coverings. In addition the constriction was loosened as quickly and with as little exposure as possible. Perfect cure was the result. Since regard to the rules of procedure mentioned is likely to lead to the most favorable results in operations of the kind, V. Nussbaum even goes so far as to express the hope that one of these days the radical cure of hernia may be effected by opening the abdomen and sewing up the internal ring from within. x.

Chancre of the Cervix Uteri and Vagina.—E. Klink (*Centralbl. f. Chir.*, 1877, p. 347; from *Vierteljahrrs. f. Dermat. u. Syphilis*) remarks on the rarity of this affection in the localities mentioned, and gives eight cases coming under his own observation. In the fifth case (chancre of the cervix), the seventh case (ulcerating tubercle of the vagina), and the eighth (ulcers of the cervix and vagina), general syphilis followed. In connection with these observations the author makes some remarks relative to the etiology, diagnosis, symptomatology, prognosis, and therapeutics of the affections mentioned. He very properly points out that in the case of very many women, even the most frequent and careful examination fails to reveal a chancrous induration, or at most occasionally soft sores or only undecided patches of erosion, which remain soft, but which are nevertheless followed by general syphilis. x.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 1, 1877.

EDITORIAL.

MUCH ADO ABOUT NOTHING.

A WEEK or two ago there occurred in this city a circumstance, trifling enough in itself, but which has been so magnified and distorted by a portion of our daily press that it seems to demand some notice at our hands. The facts, stated with the greatest possible brevity, are these:

The managers of a benevolent institution situated in West Philadelphia, and entitled a Home for Aged Colored Persons, wished to remove one of its inmates, who had become demented, to the insane department of the almshouse. Two homœopathic physicians accordingly gave a certificate of insanity, and the patient was taken to the almshouse, but was refused admission, as a rule of the Board of Guardians of the Poor, which requires that all such certificates shall contain the name of one of their district physicians, had not been complied with. The Secretary of the Board of Managers of the Home then called on Dr. Mullen, who is in charge of one of the West Philadelphia districts, and, not finding him in, left word that he would return in the afternoon, but failed to do so. Later in the day Dr. Mullen was called out professionally, and on his return at 10 P M. found the certificate awaiting him. On the following morning he went at once to the office of the Secretary, obtained the necessary information about the patient, and proceeded directly to the Home to attend to the matter, but on his arrival there was informed that during the night the patient had escaped from his room to the roof of the house, had fallen thence and was killed.

One would suppose that in connection with this recital there was little to excite either interest or criticism, unless it were the negligence which allowed an insane person the opportunity to do himself such damage; but the summer editors of some of our dailies, eager for items,—"unawed by influence and unbribed by gain,"—have seen fit to take a different view of the matter. It was said that the Puritans hated bear-baiting, not because it gave pain to the bear, but because it gave pleasure to the spectators; and in the dozen or more articles which this affair has called forth, a similar feeling has, with one exception, seemed to actuate the writers. The Board of Guardians has been severely censured for the existence of a rule—thoroughly benevolent both in intention and operation—which requires the supervision of each certificate of insanity by a reputable physician, and consequently diminishes the power for mischief of the quacks with which the country is flooded. The district physician has been accused of refusing to sign the certificate because the other signatures were those of homœopaths, and of thus sacrificing a life to a point of professional etiquette,—an assertion which may be characterized simply as a deliberate falsehood, the origin of which it is not difficult to surmise. Dr. Mullen paid prompt attention to the matter at the earliest possible moment after it came to his notice, and in the only manner consistent with the rules of the Board of Guardians and the law of Pennsylvania.

He has been subjected to much unjust and, doubtless, annoying criticism, which should entitle him to the support of those members of the profession who may have it in their power to correct the misstatements which have been circulated.

The affair has been made the pretext for several disquisitions as to the relative standing of homœopaths and regular physicians and for many unfriendly squibs as to the "bigotry" and "intolerance" of the latter. This question has been recently discussed in these columns, but is entirely foreign to the point at issue, no collision having occurred between what the homœopaths delight to call the "two schools,"—

an assumption of equality as unfounded as it is offensive.

It would seem that these expounders of "vain wisdom and false philosophy," whose claims to be considered members of a learned profession rest entirely on legal grounds, are never so happy as when some pretended slight enables them to assume the rôle of martyrs before a non-professional audience. By parading their fancied wrongs they seek to disguise their genuine insignificance and to secure sympathy as having been persecuted for opinion's sake. Their most recent attempt has been more than usually successful; but we trust that those journals which have been misled will have the fairness to make the necessary corrections.

There are in Vienna two chief centres of clinical instruction, which are in a measure rivals, and between which considerable feeling is said to exist. These two institutions are the Poliklinik and Allgemeines Krankenhaus, the first being solely a large dispensary, the latter a general hospital. In a late issue of this journal, through an inadvertence, Dr. Monti's service was attributed to the Allgemeines Krankenhaus; whereas he has no connection with that institution, but is among the chief attractions of the Poliklinik.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Thursday Evening, June 28, 1877.

The President, Dr. H. Lenox Hodge, in the chair.

Aneurism of the aorta. By Dr. E. E. Montgomery.

M. S., æt. 57, native of this city, married, mother of sixteen children, always healthy, and a hard worker. Her husband was a drunkard, whom she had supported for the last twenty years, receiving in return only abuse. She has had a slight cough ever since her change of life, which was two years ago. During the last three weeks the cough has been more severe, of a rasping character, accompanied by expectoration and pain in the neck. Appetite poor, but no difficulty in swallowing.

I was called to see her on the evening of the 17th of April. She complained of difficult breathing, a severe rasping cough, some pain in the neck, and headache; pulse was rapid and feeble; right side of neck seemed more prominent than left. Placing my hand upon it, I found pulsation so distinct as to raise my fingers. The tumor filled up the space between the trachea and sternum. No bruit could be heard, on account of the noisy respiration. My diagnosis was aneurism of the arteria innominata, and I ascribed the cough to the pressure of the tumor upon the trachea. To deaden the irritation of the air-passages she was given a cough-mixture containing morphia, spt. chloroform, and lemon-juice, and ten drops of tr. digitalis three times daily, to quiet the heart. At my next visit I found her much more quiet. April 22, gave potass iod. gr. v t. d. April 26, I was sent for in great haste, and, upon my arrival, found her dead. Her death was not attended with any struggle or increased difficulty of breathing.

Autopsy, twenty-four hours after death, assisted by Dr. Abel Price, U.S.N.—Upon opening the thorax the lungs were found healthy, excepting a slight emphysema. Blocking up the superior part of the thorax was an aneurismal tumor. It had eroded the upper part of the posterior surface of the sternum over a space two inches in diameter through one-half the thickness of the bone. The eroded surface of the bone formed the anterior wall of the tumor, the arterial coat being entirely removed. Removing the parts in connection with the heart, the aneurism was found to spring from the beginning of the arch alongside the arteria innominata. Between it and the heart a portion of the aneurism was filled with a coagulum. The whole arch of the aorta was found dilated, and its coats had undergone atheromatous change. The coagulum extended into the left ventricle, so that more than likely the attempt to produce coagulation but served to hasten her end.

Otitis media purulenta, mastoiditis, and pyæmia. By Dr. A. S. Reynolds.

J. B., age 30 years, male, previous to a recent attack of pleurisy had enjoyed excellent health, excepting occasional dyspeptic symptoms. There is no history of syphilis; his personal habits are good. General appearance indicative of the lymphatic temperament.

He was admitted to the Presbyterian Hospital, April 11, 1877, for violent pain in and about the right ear. The patient states that he has suffered intensely for the past two weeks with great pain in the ear; that the auricle has been swollen out from the head, and that the parts about the ear have been greatly congested and swollen; he has not had recently any "cold in the head" or sore throat.

When admitted, there was no displacement of the auricle; there was constant pain in the ear, of a boring and shooting character, the pain darting forward over the right brow; the mastoid region was red and tender on pressure; pain in this region constant. There was a copious discharge from the ear of a thin, amber-colored, semi-transparent fluid, having a very offensive odor.

The intellect of patient was clear; headache confined to the right side,—dull and aching over the mastoid, acute and lancinating over the temporal region; pupils normal; tongue clean; appetite good; no febrile reaction.

Inspection of the ear revealed perforation, *i.e.*, destruction of the membrana tympani; Eustachian tube pervious to Valsalva's inflation; hearing reduced to a few inches for the voice and immediate approximation for the watch.

There was at no time any œdema of the face or neck, or any evidence of implication of the cervical veins or of the cranial sinuses.

Free leeching over the mastoid gave no relief to the pain, which continued to increase. Twenty-four hours later the face was flushed, tongue coated, slight febrile reaction, pain intense; and, as there was no abatement of these symptoms, the mastoid process was perforated, April 14, by Dr. C. H. Burnett. As there seemed to be some hypertrophy of the process, the perforation was made about half an inch lower, *i.e.*, nearer the tip, than is usual. The incision made was one-quarter inch behind the auricle and one and one-quarter inches long; the surface of the mastoid appeared normal; the periosteum was dissected up, and the outer wall perforated with a conical drill at a point about one-half inch above the tip of the mastoid. The mastoid cells were reached at a depth of one-fifth of an inch, and a small amount of cheesy pus was removed with the drill. A small branch of the posterior auricular artery was cut and ligated. The following day there was less pain in the ear; pain in forehead and right brow gone.

Forty-eight hours after operation there was free superficial suppuration; complained of stiffness of right side of neck. There was slight fever, increasing until evening of fifth day, when the temperature was $102\frac{2}{5}°$, pulse 108, but subsiding gradually until the tenth day, when the temperature was $98\frac{3}{5}°$, pulse 88. On the fifth day there was some photophobia, and he complained that any noise excited headache.

From this time the discharge from the ear grew less and became purulent, closely resembling that from the wound; the incision of soft parts began to heal, the perforation in the bone persisting.

He improved steadily until the 24th of April, ten days after mastoid perforation, when he was allowed to be out of bed, and that evening complained of nausea and pain in region of liver; temperature rising, reaching $104\frac{3}{5}°$ during the evening of April 25, when he had a violent chill and complained of an intense frontal headache; pulse 116, full and bounding, tongue dry and coated, bowels open.

From this time there was constant nausea, matters vomited being ingesta and mucus, tinged with bile; pain in right hypochondriac region increased, with tenderness on pressure. He was delirious at times after the 27th; he had hiccough; the pulse became weaker and more rapid, and respiration quick and jerking. Died April 30.

Post-mortem examination, made fifteen hours after death.—Incision made from top of sternum to pubes; the abdominal cavity first laid open; the omentum *in situ propria*, but darkened by venous injection, and at its upper dextral side thickly studded with flakes of recent lymph. The stomach, of normal size, containing about two ounces of gastric juice, was coated externally by patches of lymph over the fundus, and at its pyloric end was adherent to the under surface of the liver. The duodenum was so firmly adherent to contiguous viscera and so softened that it was torn in attempting to remove it. The gall-bladder contained about an ounce, which, being pressed out through the seemingly pervious duct, presented itself as a greenish-red frothy bile. The liver, externally, was covered with yellow spots (peripheral abscesses) varying in size from one-quarter to one inch in diameter. The upper surface of the liver was free; the under surface adherent to the stomach. The peritoneum of the right hypochondriac and epigastric regions was covered by patches of lymph, all the viscera of these regions being matted together. The spleen normal, excepting slight adhesion to the diaphragm; contained no abscesses.

The kidneys were normal; the right lung adherent over its whole surface by recent pleuritic adhesions; the left lung normal, excepting the presence of a small abscess on the outer side of the lower lobe, of about one-half inch in diameter and surrounded by a hardened zone, the whole mass being about one and one-half inches in diameter.

The heart had on the exterior of the left ventricle a patch of lymph two inches long and an inch wide. The sac contained about four ounces of a clear serous fluid.

The liver was found to be perfectly riddled throughout with abscesses.

The point of incision was found to have partly healed from below upward, about three-quarters of an inch remaining open; from this point there was no external evidence of implication of any contiguous tissue.

The brain was seemingly normal, and there was no evidence of implication of the cranial sinuses.

The cerebral surface of the temporal bone

of the affected side was slightly darkened, and the dura mater of this side less firmly adherent than over the normal side.

The tympanic cavity and mastoid cells were filled with a cheesy cholesteatomatous mass; ossicles present; membrana tympani gone. There was great hyperostosis of the outer table of the mastoid portion; it was one-half inch thick at a point three-quarters of an inch behind the external auditory meatus. There was no necrosis of any part of the temporal bone; there was no implication of the internal ear, so far as could be ascertained. There was no sign of phlebitis, nor of thrombosis in the sinuses of the brain, nor in any of the veins leading from the tympanum.

The cheesy mass in the mastoid cells was lying against the mastoid surface of the bony canal in which runs the lateral sinus; but there was not the slightest change in the bony structure of the canal, nor was there any diseased spot in the cerebral surface of the temporal.

So far as the disease of the ear and the temporal bone is concerned, the case must be regarded as one of chronic purulent inflammation of the tympanum and mastoid cells, leading to a clogging of the latter with a cholesteatomatous mass, and to a hyperostosis of the mastoid portion of the temporal bone. The pyæmic embolism may have been due to the escape of some of the epithelial and purulent débris from the tympanum into the circulation.

Dr. Chas. H. Burnett said there were several features of interest in the case. Of course his chief interest was in the success of the operation. The incision he made was behind the ear and reached the bone at the thickness of the skin. The external table was healthy, and the mastoid process was perforated by means of a conical drill. The operation as a mastoid perforation he thought might be regarded as successful. The man had so far recovered that it was thought to be a case fit for the infirmary, and he was about being discharged from the hospital, when he was suddenly attacked with nausea and the other symptoms detailed in the history of the case.

He died of pyæmia due either to washing away of some purulent débris from the tympanum into the circulation or from the small abscess of the neck; but, although in the latter there had been pain and it had attracted attention during life, the man was apparently, in every sense of the word, a well man when he was attacked with nausea and chill. It is well known that these cases of chronic suppuration of the ear terminate in pyæmia, but more frequently from meningitis and thrombosis in consequence of direct communication with the meninges. He recalled the case of a boy in which there was a clot extending into the jugular vein, and the boy died of well-marked symptoms of pyæmia.

Dr. John Guitéras asked whether simple inflammation of the diploë of the mastoid process could cause this trouble.

Dr. Burnett said certainly this could be the case, and doubtless is the case in many instances, although, as a rule, observers are not obliged to look for the cause in the inflammation of the diploë, sufficient cause being found in inflammation of the brain-substance. It is interesting to compare the thickness of the outer table in disease with that of health. Schwartze says that the outer table is one to three millimetres thick ($\frac{1}{25}$ to $\frac{3}{25}$ of an inch). Green, of Boston, in writing of hyperostosis of the mastoid, speaks of a thickness of the outer table of one-quarter of an inch as abnormal. In four cases of abnormal thickening the thinnest was one-quarter of an inch and the thickest over one-half inch. The normal bone presented for comparison is evidently of smaller size than the diseased bone exhibited, which was one-half inch thick.

Dr. Burnett thought it could be stated somewhat in this way. In pyæmia from mastoid disease there is generally found abscess in the brain, or some cerebral symptoms which would, of course, become prominent, as headache, dulness of intellect, convulsions, etc., and the case has a rapid and fatal termination. In a case he saw a short time ago, in which there was no cerebral abscess, the symptoms were of the usual lingering character.

Dr. Henry said it was probable the *physical* properties of inflammatory products might be of influence in the production of pyæmia. In the case under consideration these were of a cheesy consistence, and the pyæmia was probably caused by the entrance into the lymphatics of small solid particles, which, in their onward course, entered the blood-vessels and obstructed the capillaries of the organs involved, and so gave rise to the abscesses. To attribute them to an inflammation of the lining membrane of a vein or blood-sinus affords a far less plausible explanation, as such an inflammation resulting in increased production of leucocytes would rather give rise to a condition of leukæmia.

Dr. G. C. Harlan thought that, though there was perhaps little doubt in this case of the connection between the ear disease and the pyæmia, it was by no means positively made out. All the sinuses and veins in the neighborhood of the ear are reported as perfectly healthy; there was no sign of phlebitis, which is usually the immediate cause of pyæmia in such cases. The chances of disease of the tympanum leading to fatal complications are much diminished by a free exit for discharge through the external meatus, as in this case. It not unfrequently happens that a purulent aural catarrh that has been for many years little more than an annoyance becomes the direct cause of death in consequence of the obstruction of the meatus

by the growth of a polypus. This was well illustrated by the case of a patient whose temporal bone he had exhibited to the Society several years ago. This patient, after having had otorrhœa for a long time, finally died of cerebral abscess. On the removal of a polypus there had been a gush of pent-up pus from behind it. The roof of the tympanum was found to be eroded. The condition of the mastoid process was in contrast to that just described by Dr. Burnett. Though the patient was 23 years of age and had been the subject of aural catarrh since early childhood, there was not only no hyperostosis of the mastoid, but a very deficient development; it was in an almost rudimentary condition, and could not have been punctured with any degree of safety.

Gastro-duodenal cancer. By Dr. A. S. REYNOLDS.

W. C., male, aged 59, was admitted to the Presbyterian Hospital, February 2, 1877, giving the following history. Six weeks ago he began to have acid eructations and regurgitation about fifteen or twenty minutes after each meal, accompanied by considerable flatulence. Has a constant dull pain in the right epigastro-hypochondriac region, which is intensely exaggerated about half an hour after eating. Says he is constantly hungry; has a bad taste in his mouth, and generally awakes with feelings of nausea in the morning; action of bowels has been irregular; lately has had slight attacks of vertigo, and during the past week has vomited during the nights.

Has been of intemperate habits, but previous to the present attack has enjoyed good health. Family history cancerous. Personal appearance indicates lymphatic temperament. He is moderately emaciated, skin pale, with slight yellowish tinge, cachectic, harsh, dry, and scaly; temperature normal; pulse 120; arterial tension high.

The belly is scaphoid, the walls tense and rigid, rendering it impossible to determine the size or relation of viscera by palpation. By percussion the area of hepatic dulness found to be irregularly increased anteriorly, reaching within an inch of the umbilicus; the stomach found greatly distended, but the spleen could not be detected at all. Heart-impulse sthenic; radial arteries tense and rigid.

From the time of admission all the symptoms were progressively exaggerated; pain became acute and lancinating, and emaciation became extreme. He became very constipated, the dejections were almost colorless; vomiting seemed to depend on distention of the stomach. He would often pass three or four days and then vomit several pints at a time.

Four weeks before death the abdominal walls had so relaxed that a tumor was quite perceptible, to sight and palpation, lying in the umbilical region, to the right side, seemingly connected with the liver.

There was pulsation in the tumor, synchronous with the radial pulse, and a murmur was evident in the iliac arteries and in the abdominal aorta. Distinctly coincident with inspiration and expiration, a markedly dry fremitus was imparted through the tumor, which stopped with cessation of respiration.

During the two weeks before death, the skin became soft and moist; vomiting less frequent; the bowels loose and regular, though the dejections were still colorless; the arterial tension was lessened; the skin became more jaundiced; the abdominal veins were enlarged, and purpuric spots appeared on the extremities. He died of asthenia from inanition, May 8, 1877.

Autopsy, fifteen hours after death.—Emaciation extreme; abdomen scaphoid, showing abnormal enlargement in the right hypochondriac region.

The gastric and mesenteric veins are congested; the omentum is darkened, and along its right anterior border is studded with small glandular masses of the new growth; the stomach is greatly enlarged, the walls of the cardiac extremity being greatly attenuated, while the pyloric end is thickened and infiltrated with the abnormal growth; the pylorus is patulous. The liver is cirrhotic and contains several small cancerous nodules; otherwise the liver is not implicated in the disease nor connected with the tumor. The gall-bladder is greatly enlarged, and contains about five ounces of bile.

Occupying the upper part of umbilical region is an irregular mass, four or five inches in diameter, yellowish in color, hard, and firmly attached to the posterior abdominal walls. The growth seems to have originated in the posterior duodenal walls, about the orifice of the ductus communis choledochus, which duct is entirely surrounded by the growth, and at one point it sends a valve-like projection into the duct, which almost entirely occludes it. The biliary and hepatic ducts, though not involved in the disease, are enlarged. The contiguous mesenteric glands are enlarged and indurated, and the root of the mesentery is involved in the growth in its upper part, impinging on the aorta and cava, over the third, fourth, and fifth lumbar vertebræ, greatly diminishing their calibre.

The spleen is pale, soft, and flabby; is abnormally small, being about two inches long and one inch thick. The kidneys are normal. The heart is of average size; valves normal; the walls of the left ventricle are hypertrophied, those of the right side are thinned. The arch of the aorta is dilated, and its walls are filled with calcareous plates.

Dr. JAMES TYSON was prompted by the extreme dilatation of the stomach presented to allude to Kussmaul's method of treating such dilatation already brought forward at a former meeting by Dr. James H. Hutchinson as of great service in the treatment of a

case of cancer with dilatation of the stomach, the specimens from which were exhibited by Dr. H.

Dr. Tyson was at this time making use of the treatment in a case of long-standing dilatation of the stomach, apparently without organic disease, in which there was the usual accumulation of immense quantities of acid fluid. The discomfort from this accumulation was so great as to cause the patient to seek relief by daily inducing vomiting by placing his finger in the fauces for the purpose. Dr. Tyson was using the Thudichum-douche apparatus for the purpose. The patient introduced the tube, by an act of swallowing, to the extent of about twenty inches, when the bottle, half filled with tepid water, is elevated, and the water allowed to run into the stomach; as soon as about one-half of the water has run in, the bottle is lowered and the fluid immediately returns, until the stomach is entirely emptied. Then the bottle, which contains a quart, is filled with tepid water, a teaspoonful of bicarbonate of sodium dissolved in it, and the water again allowed to flow into the stomach. Just before the bottle is empty it is reversed, and the fluid is again returned to the bottle, the stomach being thus thoroughly washed out. All this is done without withdrawing the tube, unless, as sometimes happens, it becomes obstructed by food. The most marked relief followed the first washing out. The patient immediately ate a hearty meal, and enjoyed it as he had not enjoyed food for a long time. Indeed, he so enjoyed his meals that he soon found he was eating too much, and was compelled to restrict himself. The washing was repeated the next day, but it was soon found that it was often enough to use it on alternate days. He soon learned to use it himself with great dexterity, and now washes his stomach out every other day, at which intervals he finds himself growing uncomfortable from accumulation of fluid.

With regard to the curative effect in cases where there is no obstruction, Dr. T. was, as yet, unable to express any opinion from his own case. For, although the use of the treatment gives the most decided relief, yet when the patient omits its use, up to the present time, the symptoms return.

The specimen was referred to the Committee on Morbid Growths.

Report of the Committee on Morbid Growths.—"The specimen presented by Dr. Reynolds, and referred to Committee, from a microscopic examination proves to be a carcinomatous new formation, its structure being made up of epithelial cells arranged in alveolar spaces, which spaces become very evident upon pencilling a thin section; also the walls of the alveoli are seen to consist of fibrillar connective tissue. Having such an arrangement of elements, it may be classed as the scirrhous variety.

"One of the nodules developed upon the mesentery was examined and found to be of a similar nature."

Obstruction of the œsophagus of a dog by a large bolus of meat. By Dr. O. H. Allis.

The bolus presented, measuring four inches long and one inch in thickness, was removed post mortem from the œsophagus of a dog, which died of starvation in consequence.

REVIEWS AND BOOK NOTICES.

Cyclopædia of the Practice of Medicine. Edited by Dr. H. von Ziemssen. Vol. XV.—Diseases of the Kidney. By Prof. Carl Bartels and Prof. William Ebstein. Translated by Reginald Southey, M.D. Oxon., of London, and Robert Bertolet, M.D., of Philadelphia. Albert H. Buck, M.D., New York, Editor of the American Edition. New York, William Wood & Co.

Prof. Bartels, of Kiel, who is chiefly known in this country as the author of a clinical lecture on "The Chronic Diffuse Inflammations of the Kidney," published in Volkman's well-known "Sammlung Klinische Vorträge," gives a general introduction to the subjects treated of in this volume, in the form of a description of the general symptoms of renal affections. He follows this by a description of the special diffuse diseases of the kidney, hyperæmia, ischæmia, acute parenchymatous nephritis in general, and, under another head, that occurring during pregnancy. He then goes on to treat of chronic parenchymatous nephritis, renal cirrhosis, and finally amyloid degeneration. Prof. Ebstein is also known as a contributor to Volkman's collection of "Clinical Lectures," his contribution on "Carcinoma of the Stomach" having appeared in this series. Ebstein's portion of the volume before us is concerned, first, with inflammations of the kidney, of the pelvis of the kidney, and of the perinephritic tissues, with termination in suppuration. Following this division comes a chapter on degenerative processes of the kidneys, and then others on tumors of the kidney, of the pelvis of the kidney, and of the perinephritic tissue, on foreign bodies in the kidney, the pelvis of the kidney, and the ureters, on animal parasites of the kidneys, on anomalies in the position, form, and number of the kidneys, and, finally, on diseases of the renal vessels. The space allowed for a notice of this kind barely permits of more than an enumeration of the subjects contained in the volume. This is sufficient, however, to indicate the thorough manner in which these diseases have been considered; and, although the volume is not likely to replace the well-known monographs on renal affections at present in vogue, it must long remain a storehouse of condensed information, especially on the rarer forms of kidney diseases.

GLEANINGS FROM EXCHANGES.

THE PERILS OF ICES (*The Lancet*, July 14, 1877).—A few days ago the daily papers contained an account of an inquest upon a man, a cook at a restaurant, who, while greatly heated, swallowed a large quantity of ices, complained afterwards of feeling ill, and died next day with, as the post-mortem examination showed, inflammation of the lungs. It would be too much to assume that the ices were the cause of the pneumonia, but it is equally unjustifiable to acquit them of all share in its production. It is difficult to believe that the application of severe cold to internal viscera, situated, as the stomach and œsophagus are, adjacent to vital organs and to equally vital sympathetic centres, can be less injurious than the application of severe cold to the skin. The ice may act by the local abstraction of heat from the lungs or the heart itself, or still more probably by a reflex effect through the nervous system. Who does not know the startling pain in the frontal sinuses which an after-dinner ice may cause? And the reflex effect which is felt here as pain may, in other organs, and in morbid states of system, give rise to much more grave tissue-changes. The evil effect of swallowing a large quantity of cold water while the body is greatly heated is popularly recognized; and whatever harm a large quantity of cold water may do, a much smaller quantity of ice can effect. Hence hardly a summer passes without instances occurring of grave or fatal illness succeeding, and no doubt in part due to, an indiscriminate relief of thirst by ices.

But this is not all their ill effect. If ice be placed on the back of the hand for a short time, the skin, first anæmic, rapidly becomes and remains for a long time reddened,—congested. That which can be seen in the skin must happen in the stomach. Such congestion is different from the healthy congestion which accompanies functional excitement. The secretion of the gastric juice, the function of the stomach, is interfered with by it, and digestion is consequently hindered indirectly and directly by the lowered temperature of the stomach contents, and ultimately the occurrence of chronic gastritis is favored, if not caused. With this congestion the thirst which prompted the indulgence returns in doubled degree, and the relief gained is found to have been dearly purchased. Those who have charge of the health of the community should be alive to and insist upon the dangers which attend the excessive consumption of ices.

RECURRENT SENSIBILITY (*The Lancet*, July 21, 1877).—The most recent investigations of MM. Arloing and Léon Tripier, and numerous experiments and microscopical examinations in dogs, cats, rabbits, horses, and donkeys, have led them to the following conclusions: 1. The facial and spinal accessory nerves of solidungulate animals and rodents, as well as of carnivora, possess recurrent sensibility. 2. Recurrent sensibility is more easily demonstrated the nearer we approach the periphery of the nerves. 3. The peripheral end of the trigeminus is sensitive, although the fact is difficult to demonstrate. 4. The peripheral ends of the nerves of the trunks are sensitive. This disappears as we ascend the nervous trunks. 5. In every case the sensibility of the peripheral end is due to the presence of nervous tubes whose relation with perceptive and trophic centres has not been interrupted by the section. 6. When these tubes are absent, the peripheral end is not sensitive. 7. These tubes from the facial proceed through the fifth pair; from sensitive nerves through neighboring nerves and parallel nerves of the opposite side; from mixed nerves through neighboring and homologous nerves. 8. These recurrent tubes mount more or less high in the trunk of the nerve with which they are joined; their number diminishes as we go from the periphery towards the centre. 9. The turning-point of these fibres may take place short of the termination of the nerve, but the periphery is the point of election.

LACTIC ACID AS A HYPNOTIC (*The Dublin Journal of Medical Science*, July, 1877).—Dr. E. Mendel, as a result of his experience, arrives at the following conclusions: Lactic acid is an efficient sleep-producing agent in many cases, though not in all, and this last may also be said of morphia and chloral. In cases where pain is the cause or accompaniment of sleeplessness, lactic acid is not indicated; it is recommended, on the other hand,—

1. For insomnia occurring in the course of general asthenic diseased conditions, such as commonly occur during convalescence from serious diseases.

2. For the quieting or calming of insanity, especially the painfully irritating forms.

3. Experimentally, its methodic employment is recommended in certain psychic disorders in which the exact indications for future treatment are still in reserve.

M. Jerusalimsky, in a paper on the same subject, records the clinical effects in twenty-two cases of sleeplessness in the course of quite different diseases, among them five cases of hysteria, and only in a very small proportion was the effect *nil* or undecided. In most, sleep followed the administration in one-half to one hour. A fact published by Meyer is noteworthy in this connection, viz., that the addition of a very small amount of lactate of soda to morphia in obstinate hysterical sleeplessness is very effective. Contra-indications to these remedies are any kind of disorders of the intestinal tract.

PATHOLOGY OF SCURVY (*The Lancet*, July 21, 1877).—Mr. Charles Henry Ralfe, after a careful inquiry into the general pathology of scurvy, feels justified in drawing the following inferences:

1. That the primary change that occurs in scurvy is *a chemical alteration* in the quality of the blood.

2. That this chemical alteration, as far as can be judged from inferences drawn from the analysis of urine in patients suffering from scurvy, and analysis of "scorbutic" and "antiscorbutic" diets, points to a *diminution of the alkalinity of the blood.*

3. That this *diminution of alkalinity* is produced in the first instance (physiologically) by an increase of acid salts (chiefly urates) in the blood, and finally (pathologically) by the withdrawal of salts having an alkaline reaction (chiefly alkaline carbonates).

4. That this *diminution of the alkalinity* of the blood finally produces the same results in scurvy patients as happens in animals when attempts are made to reduce the alkalinity of the body (either by injecting acids into the blood or feeding with acid salts),—namely, dissolution of the blood-corpuscles, ecchymoses, and blood-stains on mucous surfaces, and fatty degeneration of the muscles of the heart, the muscles generally, and the secreting cells of the liver and kidney.

MISCELLANY.

THE CONTAGIOUS DISEASES ACTS.—The *Western Morning News* states that the Assistant Commissioner of Metropolitan Police has just sent to the Home Office a very satisfactory report on the operation of the Contagious Diseases Acts. Our contemporary says, "The remarkable thing about the figures of this report is the diminution in the number of prostitutes and brothels which is taking place wherever the Acts are in force. Surely it is something gained for the cause not only of morality, but also of humanity, in the fact that during the year seventy-four girls between the ages of twelve and eighteen, and seventy-four between the ages of eighteen and thirty, and five above that age, who had been found in bad company and improper places, were rescued; and that one hundred and forty-six (thirty-seven of them between twelve and eighteen) who had commenced an immoral life abandoned it on being cautioned by the police, and were not placed upon the register." —*British Medical Journal.*

MEDICAL SPECIMENS.—For rapidly preparing bones and ligaments for museum purposes, Dr. L. Frederick recommends that, after the soft parts have been taken away, except the ligaments, the preparation should be washed in water, dehydrated by alcohol, and then plunged into essence of turpentine. After two or three days' maceration in this fluid, the skeleton is placed in the position in which it is designed to keep it, and dried in the air. In drying, the bones and ligaments become beautifully white, and the whiteness increases as time passes. The same process gives less satisfactory results for muscles. For a parenchymatous organ, on removing it from the turpentine Dr. Frederick plunges it into melted wax or paraffin during half an hour or two hours, till the bubbles of turpentine have ceased to pass off. When withdrawn and cooled, the piece resembles a wax model, but it is far superior in its minor details; the color of the organ persists.—*Scientific American.*

NOTES AND QUERIES.

The general meeting of the American Social Science Association for 1877 will take place at Saratoga, commencing Tuesday evening, September 4, with the annual address of the President, Mr. David A. Wells, and continuing through the 5th, 6th, and 7th, both day and evening.

Among the most interesting features will probably be the discussions on Educational, Industrial, Social, and other questions in the Southern States, to be held by Hon. Thos. F. Bayard, of Delaware, Hon. J. Randolph Tucker and Gen. T. M. Logan, of Virginia, W. L. Trenholm, of Charleston, and others.

In the Health Department, papers will be read on Thursday and Friday by E. G. Loring, M.D., on "Is the Intellectual World becoming Near-Sighted?" F. Winsor, M.D., and others, on "Warming and Ventilation of School-Houses;" Mrs. A. C. Martin (of Otis Place School, Boston), on "Injury to the Health of Girls from Imperfect Early Training;" A. H. Nichols, M.D., on "School Desks and Seats;" and the Secretary, D. F. Lincoln, M.D., on "The Half-Time System of Education."

All, whether members of the Association or not, are cordially invited to be present. Those attending will be received at reduced rates by the United States Hotel; fares between New York and Saratoga will also probably be reduced.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM AUG. 12, 1877, TO AUG. 25, 1877, INCLUSIVE.

ALDEN, C. H., MAJOR AND SURGEON.—On account of illness, relieved from duty as Chief Surgeon of reserve column of troops of the Nez Percé Indian expedition. S. O. 113, Department of the Columbia, August 11, 1877.

STERNBERG, G. M., MAJOR AND SURGEON.—To take charge of the sick and wounded at Camp Bancroft, Indian Territory, proceed with them to Grangeville, Indian Territory, and there establish a field hospital. S. F. O. 28, Headquarters, Department of the Columbia, in the field, July 14, 1877

KIMBALL, J. P., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Fort Brady, Michigan, to proceed to New York City and report in person at these Headquarters for assignment. S. O. 190, Division of the Atlantic, August 22, 1877.

DICKSON, J. M., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Gulf, and ordered to the Division of the Atlantic, S. O. 172, A. G. O., August 14, 1877, and assigned to duty with U. S. troops at Indianapolis Arsenal, Indiana. S. O. 190, c. s., Division of the Atlantic.

REYNOLDS, F., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for six months from September 1, 1877, on Surgeon's certificate of disability, with permission to go beyond sea. S. O. 177, A. G. O., August 20, 1877.

BROWN, P. R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty with 5th Infantry, and to return to his station—Fort Shaw. S. O. 108, Department of Dakota, April 13, 1877.

HALL, WM. R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty as medical officer with the cavalry commanded by Captain Perry, 1st Cavalry. S. F. O. 28, c. s., Department of the Columbia.

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